

**IN THE CLAIMS:**

Please amend Claims 1, 4, 14, and 32 as follows, which together with the remaining claims being presented pursuant to the revised format published in the Official Gazette on February 25, 2003:

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1. (currently amended): The process for the preparation of a sprayable polymeric material having a fibrous material, comprising:
- a) providing a fibrous material;
  - b) providing reaction components comprising a ~~predetermined amount of~~ polyol and a ~~predetermined amount of an~~ isocyanate;
  - c) heating the reaction components;
  - d) adding the fibrous material to the polyol component, to the isocyanate component, or to both; and
  - e) reacting the reaction components, whereby to create the polymeric material having no volatile organic compounds.
2. (original): The process of claim 1 further comprising heating the fibrous material to a temperature from about 140 F to 160 F, prior to adding the fibrous material to the reaction components.
3. (previously amended) The process of claim 1 wherein the fibrous material is dry.

4. (currently amended): The process of claim 1, further comprising, prior to adding the fibrous material, pre-wetting the fibrous material to (i) about 10% by volume of the ~~predetermined amount of~~ total volume of polyol component, (ii) about 10% by volume of the ~~predetermined amount of~~ total volume of isocyanate component, or (iii) about 10% by volume of the ~~predetermined amount~~ total volume of both components combined.

5. (previously amended) The process of claim 1 wherein the fibrous material is an aramid, polyethylene, fullerene, nanotube, ceramic fiber, or mixtures thereof.

6. (previously amended) The process of claim 5, wherein the aramid fiber is aramid fiber pulp.

7. (previously amended) The process of claim 1, wherein the fibrous material is from about 0.5 weight % to 1.0 weight percent of the total weight of the composition.

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8. (original): The process of claim 1 wherein the heating of the reaction components is from about 160 F to 250 F.

9. (original): The process of claim 1, wherein the polyol component and the isocyanate component are provided in a 1:1 ratio by volume.

10. (original): The process of claim 1, further comprising adding water to the polymeric material, whereby to create a matrix of closed cell polyurethane.

11. (previously amended) The process of claim 10, further comprising molding the closed cell polyurethane, wherein the molding is either in normal atmospheric conditions or under 2-3 atm of pressure.

12. (original): The process of claim 1, wherein the adding of the fibrous material to the polyol, the isocyanate, or both, is by mixing, whereby to randomly locate the fibrous material within the polyol, the isocyanate, or both.

13. (previously amended) A process for the preparation of a composite of a sprayable polymer resin having a reinforcing fiber, comprising adding the reinforcing fiber to a first polymeric reactant material solution and to a second polymeric reactant material solution, reacting the first and second solutions, whereby the reinforcing material is incorporated homogeneously without causing separation during the curing reaction between the first and second polymeric reactant material solutions.


14. (currently amended): The process for the preparation of a sprayable polymeric material having a fibrous material, comprising:

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- a) providing a fibrous material;
  - b) providing a first and second reaction component, wherein the first and second reaction components ~~contains~~ contain no volatile organic compounds and react to form a polyurethane, polyester, epoxy, or polyurea;
  - c) heating the reaction components;
  - d) adding the fibrous material ~~to:~~ to the first reaction component, ~~wherein the first reaction component is polyol;~~ to the second reaction component, ~~wherein the second reaction component is isocyanate;~~ or to both the first and second reaction component; and

e) reacting the first and second reaction components, whereby to create the polymeric material.

15. (previously amended) A spray nozzle for mixing and spraying a first polymeric reactant material with a second polymeric reactant material, at least one of the reactant polymeric materials containing a fibrous material, forming a two part polymer comprising: a check valve without springs, a hose for conveying said first and second polymeric materials to a ball valve, said nozzle spraying a mixture of the first and second materials from said check valve onto a surface.

16. (previously amended) The spray nozzle of claim 15 wherein the fibrous material is an aramid, polyethylene, fullerene, nanotube, ceramic fiber, or mixtures thereof.

 17. (previously amended) The spray nozzle of claim 16, wherein the aramid fiber is aramid fiber pulp.

18. (original): A reinforced structure comprising a first and second layer of polyurethane resin containing from about 0.5 to 1.0% by weight of a fibrous material sandwiching a layer of polyurethane foam containing from about 0.5 to 1.0% by weight of a fibrous material.


19. (previously amended) The reinforced structure of claim 18, wherein the fibrous material is an aramid, polyethylene, fullerene, nanotube, ceramic fiber, or mixtures thereof.

20. (previously amended) The reinforced structure of claim 19 wherein the aramid fiber is aramid fiber pulp.

21. (previously amended) The reinforced structure of claim 18 wherein the thickness of the first and second layers of polyurethane resin are about 100 mils.

22. (previously amended) The reinforced structure of claim 18 further comprising a panel between said first or second layer of polyurethane resin.

23. (previously amended) A method of coating a reinforcement structure having a top and a bottom side with a polyurethane composition comprising:

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- a) providing a fibrous material;
  - b) providing reaction components comprising a polyol and an isocyanate;
  - c) heating the reaction components;
  - d) mixing the fibrous material with the polyol, the isocyanate, or both;
  - e) reacting the reaction components, whereby to create a polymeric resin;
  - f) spraying the top of the reinforcement structure with a polymeric foam

containing a second fibrous material; and

g) spraying the polymeric foam, on top of the reinforcement structure, with the polymeric resin, prior to cure of the polymeric resin.

24. (original): The method of claim 23, further comprising spraying the bottom side of the reinforcement structure with the polymeric foam.

25. (previously amended) The method of claim 24, further comprising spraying the polymeric foam, on the bottom side of the reinforcement structure, with the polymeric resin.

26. (original): The method of claim 23, wherein the step of reacting the reaction components is performed in an inert atmosphere.

27. (previously amended) The method of claim 23, wherein the first and second fibrous materials are aramid, polyethylene, carbon, or ceramic fiber, or mixtures thereof.

28. (previously amended) The method of claim 27, wherein the aramid fiber is aramid fiber.

29. (previously amended) The method of claim 23, wherein the fibrous material is from about 0.5% to about 1.0% by weight of the polyurethane composition.

30. (original): The method of claim 23, wherein the heating is from about 160°F to about 250°F.

31. (original): The method of claim 23, wherein the polyol and the isocyanate are provided in about a 1:1 ratio by volume.

32. (currently amended): The method of claim 23, further comprising applying pressure to the reaction components of step e).

33. (previously amended) The method of claim 23 wherein the reinforcement structure is sprayed with a thickness of about 100 mils of the polymeric resin.


34. (original): A sprayable polyurethane composition comprising from about 0.5% to 30% by weight of a fibrous material, wherein the polyurethane is solvent-free and is the reaction product of a polyol and a polyisocyanate.

35. (previously amended) The composition of claim 34 wherein the fibrous material is an aramid, polyethylene, carbon, or ceramic fiber, or mixtures thereof.

36. (previously amended) The composition of claim 35 wherein the aramid fiber is aramid fiber pulp.

37. (original): A flexible liner comprising:

a) a porous geotextile fabric;

 b) a polyurethane composition comprising a fibrous material sprayed over said porous geotextile fabric, whereby to form a monolithic membrane with the geotextile fabric.

38. (previously amended) The flexible liner of claim 37, wherein the thickness of the polyurethane is sprayed at about 100 mils.

39. (previously amended) The flexible liner of claim 37, wherein the fibrous material is an aramid, polyethylene, carbon, or ceramic fiber, or mixtures thereof.

40. (previously amended) The flexible liner of claim 37, wherein the aramid fiber is aramid fiber pulp.

41. (original): A process for the preparation of a flexible liner comprising:

- a) providing a sheet of a porous geotextile fabric having a perimeter edge;
- b) spraying a polyurethane composition comprising a fibrous material onto said porous geotextile fabric, whereby to form a monolithic membrane with the geotextile fabric.

42. (previously amended) The process of claim 41, wherein the spraying of the polyurethane is a thickness of about 100 mils.

43. (previously amended) The process of claim 41, wherein the fibrous material is an aramid, polyethylene, carbon, or ceramic fiber, or mixtures thereof.

44. (previously amended) The process of claim 43, wherein the aramid fiber is aramid fiber pulp.

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amended 45. (previously amended) The process of claim 41, further comprising placing the geotextile fabric on top of an object to be lined.

46. (original): The process of claim 45, further comprising attaching the geotextile fabric to the object with an adhesive, prior to spraying the polyurethane composition, wherein the perimeter edge of the geotextile fabric is not tacked to the object to allow gas to escape.

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#### REMARKS

Claims 1-36, 38-40, and 42-45 were originally rejected under 35 U.S.C. § 112, second paragraph, in the Office Action of June 10, 2002. The Examiner objected to the